

Appl. No. 10/775,689

Attorney Docket No. HSI920030091US1

Amendments to the Drawings:

The attached sheet of drawings includes changes to Fig. 12. This sheet, which includes Fig. 12 replaces the original sheet including Fig. 12.

Attachment: Replacement Sheet

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REMARKS

Claims 1-10 are pending in the present application. New claims 9-10 have been added to further clarify the scope of the present invention. No new matter has been added to the new claims. Support for the new claims can be found in the specification. Reconsideration of the claims is respectfully requested in light of the remarks below.

Objections to the Drawings

The office action objected to Figures 2, 4, 6, 8, and 12. Amendments have been made to the specification and Figure 12 to correct various typographical errors.

With respect to Figure 2, the first reference to numeral 206 has been deleted from paragraph 25 of the specification.

With respect to Figure 4, the reference to "a portion 502" in paragraph 26 of the specification has been changed to a "portion 402," as suggested in the office action. Also, the reference to "servo sample area 206" has been changed to "servo sample area 406."

With respect to Figure 6, the office action suggests that the reference element A' is not clear. No changes have been made with respect to this objection. Applicants believe that the reference to A' in Figure 6 clearly points to a radius A' from the center of the hard disk 602 to the read/write head 605 in a second position.

With respect to Figure 8, the references to "read/write head 801" in paragraph 33 of the specification have been changed to "read/write head 800" to conform to Figure 8.

Also, reference numerals 1202 and 1203 have been deleted from Figure 12. A replacement sheet for Figure 12 is being submitted in the attachment hereto.

Rejection of Claims 1-8

Claims 1-8 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent 5,682,274 to Brown et al. in light of U.S. Patent 6,204,989 to Hrinya et al.

Applicants respectfully disagree with this rejection.

Claim 1 of the present application, for example, recites "writing a data track having a length between successive servo sample areas that is based on an arc of the rotary

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actuator, the radial position of the read/write head with respect to the hard disk and the offset between the read element and the write element.”

Neither Brown et al. nor Hrinya et al. disclose or suggest this feature of claim 1. In Hrinya et al., “curvilinear servo sectors 212’ are aligned with arc segment 230 so that the head 108 encounters servo sectors independent from its radial position.” See Figure 2 and at col. 4, lines 30-31 (emphasis added). “Arc segment 230 corresponds to a circle concentric with the pivot axis of the actuator assembly 110 and having a radius corresponding to the length of the actuator arm 106.” Hrinya et al., col. 4, lines 22-25.

However, Hrinya et al. does not disclose or suggest data tracks between servo sample areas having lengths that are based on *an arc of the rotary actuator, the radial position of the read/write head with respect to the hard disk and the offset between the read element and the write element*.

As described in the present patent application, the relative offset between the read element and the write element along a data track varies as the radial position of the read/write head and the arc of rotary actuator changes with respect to the hard disk. According to the present invention, the lengths of data tracks vary at different radii from the center of the hard disk based on the varying offset between the read element and the write element to minimize the unused area. See e.g., Figures 5A, 5B, and 9 of the present application.

For example, the lengths of the data tracks increase when the offset between the read element and the write element decreases, as indicated by portion 509 of data track 506 in Figure 5B. Shown another way, portion 1204 of unused area 1201 in Figure 12 can be used to write customer data according to the present invention.

As recited in new claim 9, a hard disk drive is “configured to write data to data tracks on a hard disk, wherein lengths of the data tracks vary at varying distances from a center of the hard disk such that the length of unused areas between the data tracks and subsequent servo samples varies with a relative offset between the read element and the write element at a corresponding distance from the center of the hard disk.”

The prior art references relied upon in the office action do not disclose or suggest these features of claim 1. For at least these reasons, claim 1 and its dependent claims are novel

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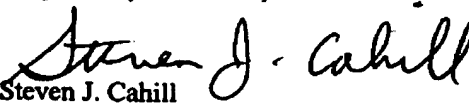
and nonobvious over the combination of Brown et al. and Hrinya et al. Claims 5-8 are allowable for similar reasons.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-242-8300.

Respectfully submitted,


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Attachment